REMARKS

Reconsideration of this application, as amended, is respectfully requested. Claim 22 is being presented as a new claim rather than an amended version of claim 1 simply for clarity. Claim 22 recites subject matter formerly found in claims 1 and 10, and as disclosed in the specification as originally filed, for example at paragraphs 15 and 21-26. No new matter is being added. New claims 23-26 recite subject matter formerly found in claims 5, 3, 4 and 15, respectively. No new matter is being added. Conforming amendments are being made to claims 7-9.

Claim 22 is patentable over the combination of van Os, US 5,792,272 and Kholodenko, US 6,185,839. For example, neither of these references teach or suggest a system having cleaning gas injection ports collectively arranged so as to deliver a greater concentration of cleaning gas towards cooler elements of the processing chamber than towards warmer elements of the processing chamber during cleaning processes, as recited in claim 22.

The van Os reference describes a reactor chamber with two separate gas injection manifolds (e.g., See van Os, element 15 of FIG's. 1, 3a-c; and element 17 of FIG's 1 and 4). Both gas injection manifolds are used to deliver processing gases as well as cleaning gases into the plasma and processing chambers. Gas injection manifold 15 does not meet the requirements for the claimed cleaning gas injection ports because the ports of manifold 15 are not in fluid communication with a cleaning gas distribution channel via a plumbing arrangement separate from a plumbing arrangement fluidly coupled to a showerhead as recited in claim 22. The gas injection ports of manifold 17 are fluidly coupled to a plumbing arrangement that is so separated, but these injection ports (44a, 44b) are not arranged so as to deliver a greater concentration of cleaning gas towards cooler elements of the processing chamber than towards warmer elements of the processing chamber during cleaning processes, as recited in claim 22. Instead, they are arranged to deliver gases towards the heated chuck. See van Os at col. 8, ll. 1-7.

The Kholodenko reference discloses pairs of process gas injection nozzles positioned at inclined angles for introducing a process gas to a reaction chamber. Even if one were to modify the teachings of van Os with the arrangement of gas injection nozzles described by Kholodenko, one would not arrive at the present invention because there would still not be injection ports arranged so as to deliver a greater concentration of cleaning gas towards cooler elements of the processing chamber than towards warmer elements of the processing chamber during cleaning processes, as recited in claim 22. Instead, the ports would be arranged at various inclined angles to deliver gases towards the heated chuck. Hence, the claims are patentable over this combination of references.

If there are any additional fees due in connection with this communication, please charge Deposit Account No. 19-3140.

Respectfully submitted,
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